



HYURO KING





HYDRO-KING

The world depends on the agriculture sector for food and driver of economic growth and security. At the same time globally there are shortages of water. NFT (Nutrient Film Technique) Hydroponic technology is an option to overcome critical food and water shortages by offering a quicker, healthier, more sustainable method of food production. It has the added advantage of requiring a fraction of the space that would be required to grow the equivalent crops conventionally.

With the HYDRO-KING NFT System one can re-use up to 70% of the water and fertiliser requirements, gain 40% more lettuce per square meter due to its re-circulating system whilst growing cleaner and more productive plants.





WHAT IS NFT HYDROPONICS?

Nutrient film technique (NFT) is a hydroponic technique wherein a very shallow stream of water containing all the dissolved nutrients required for plant growth is re-circulated past the bare roots of plants in a watertight gully, also known as channels.



WHAT IS NFT HYDROPONICS?

NFT was developed in the mid 1960s in England by Dr. Alen Cooper. In an ideal system, the depth of the recirculating stream should be very shallow, little more than a film of water, hence the name 'nutrient film'. This ensures that the thick root mat, which develops in the bottom of the channel, has an upper surface, which, although moist, is in the air. Subsequent to this, an abundant supply of oxygen is provided to the roots of the plants. A properly designed NFT system is based on using the right channel slope, the right flow rate, and the right channel length. The main advantage of the NFT system over other forms of hydroponics is that the plant roots are exposed to adequate supplies of the three building blocks necessary for growth namely: water, oxygen and nutrients.

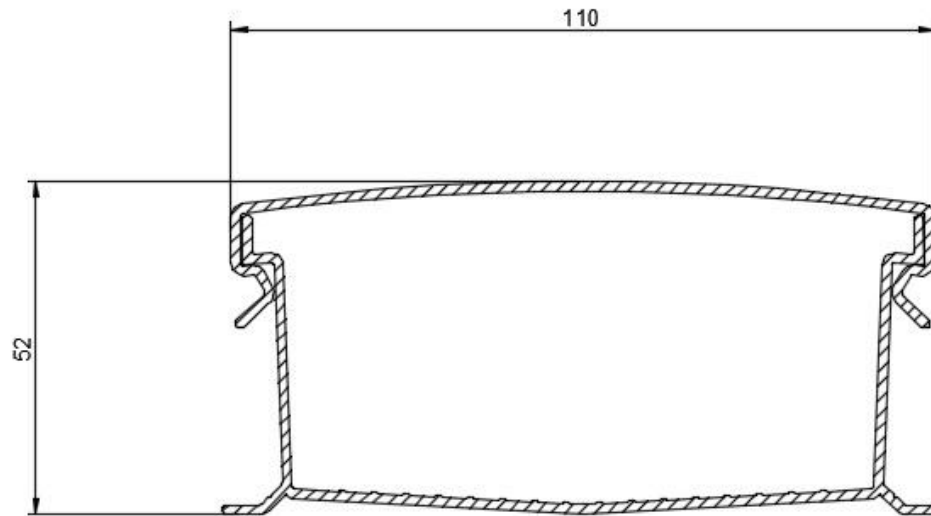
In earlier production systems, there was a conflict between the supply of these requirements, since excessive or deficient amounts of one results in an imbalance of one or both of the others. NFT, because of its design, provides a system wherein all three requirements for healthy plant growth can be met at the same time, provided that the simple concept of NFT is always remembered and practiced.

The result of these advantages is that higher yields of high-quality produce are obtained over an extended period of cropping.



WHAT IS THE HYDRO-KING NFT SYSTEM?

The HYDRO-KING NFT systems has been designed developed by SCI in conjunction with leading hydroponic suppliers to develop a turnkey system that can be utilised not only in large scale applications but also smaller systems such as home kits. The system and principles remain the same.



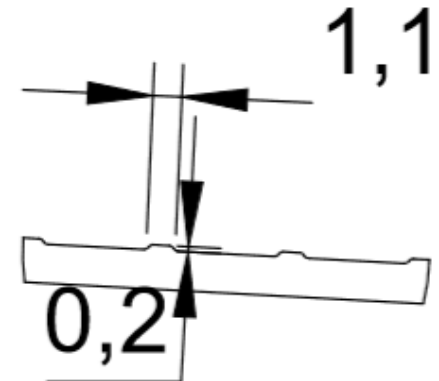


WHAT IS THE HYDRO-KING NFT SYSTEM?

CHANNELS

HYDRO-KING NFT channels are easy to use and easy to clean, while excluding light to reduce algae build-up in the growing system. The channels are designed with a slight "V" at the bottom of the channel which directs the nutrient solution down the center of the channel to ensure all plants receive the necessary nutrients. This feature is balanced in turn by special dispersion ribs that facilitate water streams spreading across the required base of the profile.

- All channels have the HYDRO-KING strapping leg for easy fitment of cable ties
- Channels are available in standard lengths of 6m
- Custom channels are available with a minimum order of 1000 lengths or more



Dispersion Ribs Detail



WHAT IS THE HYDRO-KING NFT SYSTEM?

LIDS

A unique feature of these hydroponic channels is the removable 'snap-on' lid for ease of cleaning and harvesting. The removing of the lid is eased by unique lever flaps to facilitate quick and speedy removal. Each lid is extruded approx. 45mm longer than the channel to cover both ends of the channel keeping out the light and thus preventing algae growth resulting from sunlight contacting the nutrient solution in the channel.

- Lids are pre-punched to save hours of drilling
- Standard holes in the top caps are round to accept 50mm net pots
- Standard holes are punched with a frequency of 16 holes per meter for seedlings and 4 holes pm for established plants
- Lids are available in standard lengths of 6,045m (overlaps to cover the end cap and reduce light exposure of the water)
- Custom lids are available with a minimum order of 1000 lengths





WHAT IS THE HYDRO-KING NFT SYSTEM?

END CAPS

Industry unique end caps are supplied to compliment the system and eliminate unwanted sunlight exposure. There are two variants of the end cap namely with a nozzle port open (for drainage at gulley ends) or with the nozzle port closed (for the gulley headers). The a nozzle ports that can however also be used on the header as a port for feeder lines. The port is compatible with a 20mm OD food grade conduit from SCI.

Alternately the outside of each end cap has two dimples recessed in the polymer which can be used as a location guide for drilling customer specific holes for unique applications such as smaller pipes (than 20mm conduit) should the user prefer these as feeder lines instead.

All HYDRO-KING NFT components are manufactured from food grade, UV stabilized polymer for safety and long life in the greenhouse.



WHAT IS THE HYDRO-KING NFT SYSTEM?

The HYDRO-KING NFT system allows for an abundant supply of oxygen is provided to the roots of the plants resulting in faster plant growth and increased yields.





WHAT IS THE HYDRO-KING NFT SYSTEM?

LAYOUT

Channels are to be laid out in such a manner to ensure that plants have the maximum breathing space by utilising an offset position. Ideally seedlings and more mature plants are kept separate.

